What we claim is:

1. A method for preparing a device comprising:

providing a substrate;

depositing a layer comprising metal on the substrate;

processing the deposited layer into a substance comprising substantially parallel nanoscale pores;

depositing a substance of first composition in the nanoscale pores; and

providing at least one additional layer of second composition substantially perpendicular to the substance deposited in the nanoscale pores.

2. The method of claim 1, wherein the substrate comprises silicon wafer.

3. The method of claim 1, wherein the substrate comprises glass.

4. The method of claim 1, wherein the substrate comprises polymer.

5. The method of claim 1, wherein the substrate comprises metal.

6. The method of claim 1, wherein the layer comprising metal comprises aluminum.

7. The method of claim 1, wherein the substance of first composition comprises nanotubes or nanowires.

8. The method of claim 1, wherein the act of depositing a substance of first composition is followed by dissolution of the substance comprising substantially parallel nanoscale pores.

9. The method of claim 1, wherein the device comprises copper.

10. The method of claim 1, wherein the act of depositing a substance of first composition comprises one or more actions selected from the group consisting of spin coating, dip coating, spray coating, solution impregnation, sputtering, reactive sputtering, physical vapor deposition, chemical vapor deposition, atomic layer deposition, ion beam,

e-beam deposition, molecular beam epitaxy, laser deposition, plasma deposition, electrophoretic deposition, magnetophoretic deposition, thermophoretic deposition, stamping, centrifugal casting, gel casting, extrusion, electrochemical deposition, printing and painting.

11. The method of claim 1, wherein the substance of first composition comprises a substance selected from the group – organic, inorganic, metal, alloy, ceramic, polymer, ion conducting, non-metallic, composite, metal salts, metal complexes, bio-organisms, biologically active materials, biologically derived materials and biocomposites.

12. The method of claim 1, wherein the substance of first composition comprises a substance selected from – titanium oxide, barium titanate, strontium titanate, zinc oxide, indium oxide, zirconium oxide, tin oxide, antimony oxide, tungsten oxide, molybdenum oxide, tantalum oxide, cerium oxide, iron oxide, manganese oxide, rare earth oxides, binary and ternary complex oxides, lithium chloride, magnesium chloride, silicon carbide, bismuth telluride, gallium nitride, silicon, germanium, titanium boride, iron boride, zirconates, aluminates, tungstates, stannates, zincates, carbides, borates, hydrides, oxides, oxynitrides, oxycarbides, halides, silicates, phosphides, nitrides, chalcogenides, enzymes, nucleotides, antibodies, cells, and polymers.

13. The method of claim 1 further comprising patterning the layer comprising metal using a mask.

14. The method of claim 1 wherein the act of depositing or processing includes photolithography.

15. A product comprising a device prepared using the method of claim 1.

16. The method of claim 1 wherein the device comprises a sensing device.

17. The method of claim 1 wherein the device comprises an electromagnetic device.

18. The method of claim 1 wherein the device comprises an electronic device.

19. The method of claim 1 wherein the device comprises an interconnect.

20. A method for preparing a device comprising:

providing a wafer comprising silicon;

depositing a layer on the wafer;

processing the deposited layer into a substance comprising substantially parallel nanoscale pores;

preparing nanotubes or nanowires in the nanoscale pores; and

providing at least one additional layer of second composition substantially perpendicular to the nanotubes.